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Successful Containment of Invasive Crop Pest in India Demonstrates Strong Model for International Cooperation on Pest Management

Through quick action on the part of USDA, USAID, and the U.S. Government's research and corporate partners around the world, an infestation of an invasive crop pest that appeared in Tamil Nadu, India, was successfully controlled in just five months, yielding a successful model for political and technical food security stakeholders to follow for future threats to smallholder farmers due to crop pests.

Despite advances in pest control, 20 to 30 percent of crops in India are still lost to pests and diseases every year. From 2008-2010, the Papaya Mealybug—an invasive species of insect native to Mexico—ravaged crops in the state of Tamil Nadu, wiping out an estimated $93 million worth of papaya, mulberry and tapioca crops, eventually spreading to other Indian states and crops. By 2010, nearly $319 million in crop losses could be attributed to the Papaya Mealybug infestation, and the pest threatened to spread even farther throughout India.

When the outbreak was reported to USAID's **Integrated Pest Management Collaborative Research Support Program** in Tamil Nadu, a comprehensive plan was set in motion to contain and control the infestation. Together with the Government of India, state universities, and corporate partners, USDA's Animal and Plant Health Inspection Services (APHIS) worked with the Puerto Rican Department of Agriculture to breed and ship three kinds of parasitoids (parasite-like organisms that kill their hosts and prevent reproduction) to India to control the Papaya Mealybug. Approximately 800,000 of these parasitoids were released across Tamil Nadu over a period of eight months. Within five months of the first release, the infestation had effectively been controlled.

Not only was the speed of the containment process impressive, but the innovative solution of using parasitoids was particularly important for smallholder farmers, who would otherwise have needed to use high concentrations of pesticides to control the outbreak. Tamil Nadu Agricultural University, which invested $200,000 to breed the parasitoids, estimates that farmers saved $35 million that would otherwise have gone toward expensive pesticides.

While invasive pest species remain a perennial threat to crops around the world, the Papaya Mealybug outbreak and the international cooperation that successfully controlled it demonstrate the importance and value of collaborative partnership across countries and sectors to promote healthy crops and global food security.

*To learn more about the Papaya Mealybug and integrated pest management, **view the full success story on USAID.gov**.*